



# Department of Food Science

Faculty of Science  
University of Copenhagen



## Department of Food Science in numbers

- 18 MILLION US\$ IN TURNOVER 2012
  - 40 PROFESSORS, ASSOCIATE PROFESSORS ETC.
  - 20 POSTDOCS, ASSISTANT PROFESSORS ETC.
  - 50 TECHNICAL AND ADMINISTRATIVE STAFF
  - 75 PHD STUDENTS
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- BSC IN FOOD AND NUTRITION (IN DANISH), CA. 300 STUDENTS
  - MSC IN FOOD SCIENCE AND TECHNOLOGY (IN ENGLISH), CA. 200 STUDENTS
  - MSC IN GASTRONOMY AND HEALTH (IN ENGLISH), CA. 40 STUDENTS



## Teaching

FOOD offers teaching in:

- Bachelor in Food and Nutrition (in Danish)
- Master in Food Science & Technology (in English)
  - Individual specialisation
  - Specialisation in Dairy Technology
  - Specialisation in Brewing Technology
  - Specialisation in Process Analytical Technology (PAT)
  - Specialisation in Food Safety
  - Specialisation in Sensory science (collaboration with NBI University)
  - Erasmus Mundus in animal derived foods (international elite programme)
  - Safety in the Food Chain (international programme)
- Master in Gastronomy and Health



# What do we do?

*Meat, dairy, beverage, vegetables, bread, candy, cakes,  
ingredients, cultures, probiotics*



- Processing technology
- The food matrix and ingredients
- Food and human interaction



## Major infrastructures

### Dairy and bio-refinery pilot plants

### Sensory laboratory platform

- Panel based
- Multi sense
- Observational

### NMR and GC/MS platform:

- Ingredient functionality
- Metabolomics
- Carbohydrates structure functionality
- Aroma profiling

### Chemometrics.

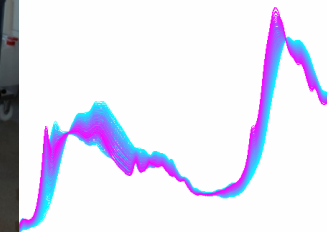
- NMR and GC/MS data
- IR, NIR, Raman Spectroscopy data
- Sensory data
- PAT

### Electron spin resonance spectroscopy:

- Oxidation processes
- Antioxidants

### Bioimaging:

- Food structures
- Biofilm formation
- Microbial interactions



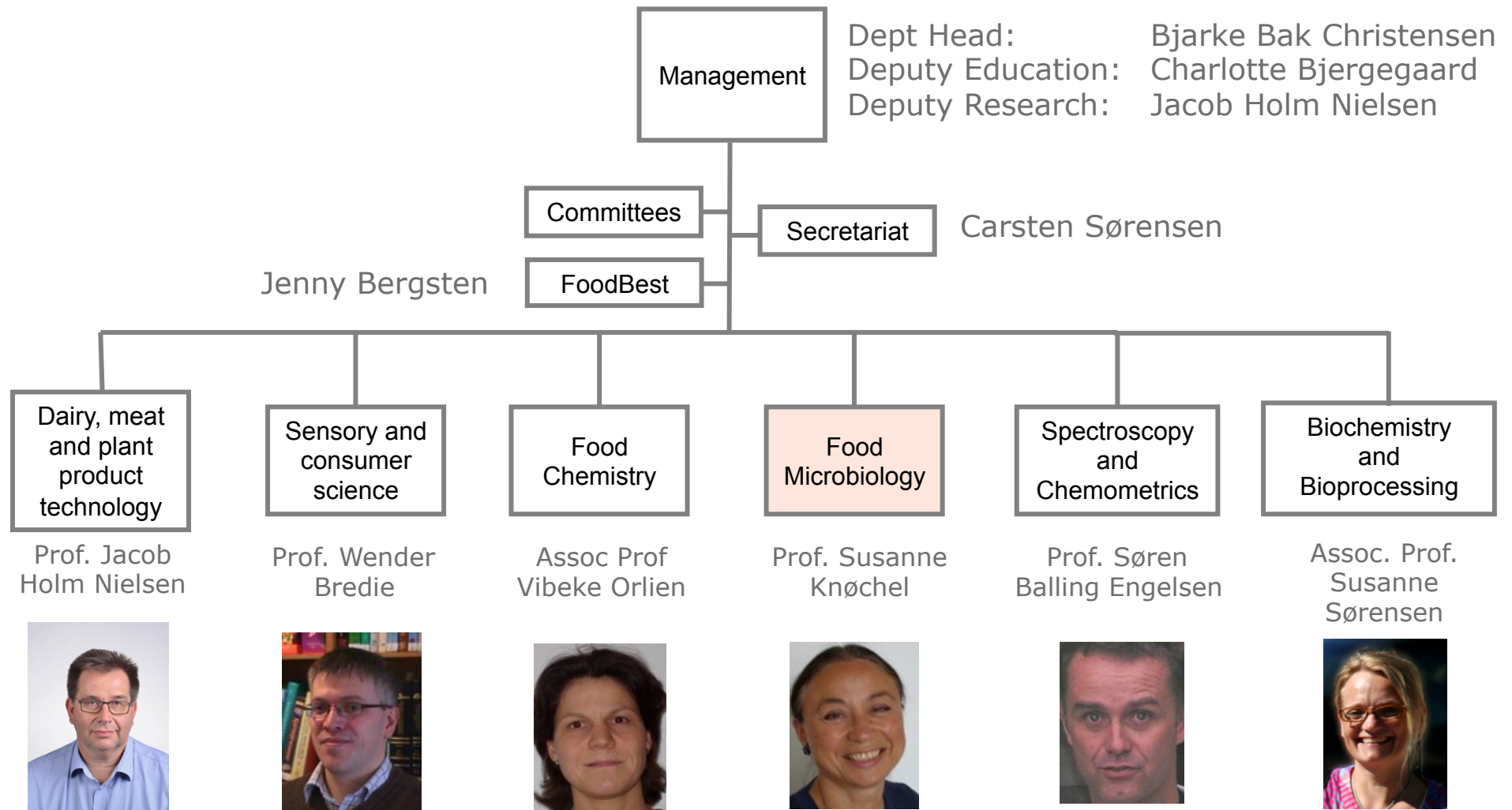


## Industrial collaboration

- More than 75% of FOODs research projects are in collaboration with industry
- Increased potential for cooperation and collaboration also with the medical and biotechnology industry, nationally and internationally.
- A number of research results generated from FOOD are, or have the potential to be, utilized commercially.



# Organisation



# Food Micro: Who are we ?

**Approx. 36 (55 w. guest researchers and master students)**

Head of Section, Prof. Susanne Knøchel



Prof. (fermentation microbiology) Lene Jespersen



Prof. emeritus Mogens Jakobsen



Associate professors



Nils Arneborg Finn Kvist Vogensen Henrik Siegumfeldt Dennis Sandris Nielsen Line Thorsen





# Microbes: Friends and foes



Starter  
cultures

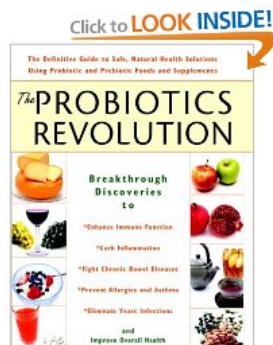
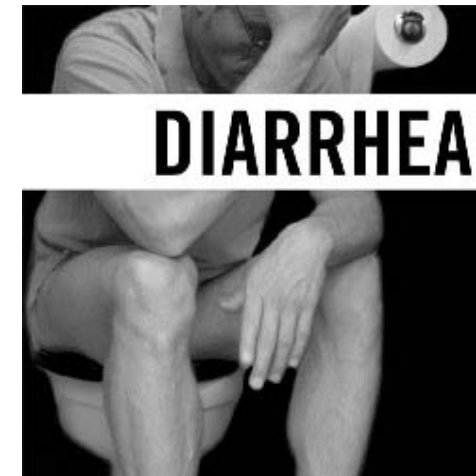


Spoilage and shelf life



Health and  
wellness

Illness



# Aim: Understanding the interaction of microbes with the matrix and processes

- **Food fermentation/starter culture functionality**
- **Safety in food processing**
- **Interactions between the gastrointestinal tract and microbes**
- **Phage ecology**
- **Value added food processing in Africa and global perspectives**

